

**UNITED STATES DEPARTMENT OF ENERGY
SOUTHWESTERN POWER ADMINISTRATION**

**RATE SCHEDULE NFTS-98¹
WHOLESALE RATES FOR NON-FEDERAL
TRANSMISSION SERVICE**

Effective:

As of January 1, 1998, and thereafter in accordance with Rate Order No. SWPA-37.

Available:

In the region where Southwestern Power Administration (Southwestern) owns and operates high-voltage transmission lines and related facilities, or has contractual rights to such transmission facilities owned by others (System of Southwestern).

Applicable:

To Transmission Customers which have executed Service Agreements with Southwestern for the transmission of non-Federal power and energy over the System of Southwestern. Non-Federal power and energy will be transmitted and/or displaced, at the request of such Transmission Customer, over those portions of the System of Southwestern in which the Administrator, Southwestern, in his or her sole judgment, has determined that uncommitted transmission and transformation capacities in the amount(s) requested are and will be available in excess of the capacities required to market Federal power and energy pursuant to Section 5 of the Flood Control Act of 1944 (58 Stat. 887,890; 16 U.S.C. 825s).

Character and Conditions of Service:

Non-Federal power and energy will be received into the System of Southwestern in accordance with established schedules, and transmitted and/or displaced as 3-phase, alternating current, at approximately 60 Hertz, and delivered at the voltage level of the point(s) of delivery specified by Service Agreement or Transmission Service Transaction.

Definitions of Terms:

A "*Service Agreement*" is a contract executed between a Transmission Customer and Southwestern for the transmission of non-Federal power and energy over the System of Southwestern. Service Agreements are "*Long-Term Firm Agreements*," "*Enabling Agreements*," or "*Network Service Agreements*." Long-Term Firm Agreements provide for reserved transmission capacity on a firm basis, for a particular point-to-point delivery path, for a period of one year or more. An Enabling Agreement provides for the Transmission Customer to request a variety of arrangements for shorter periods, which may be on a firm or non-firm basis. A Network Service Agreement provides for Network Integration Transmission Service.

A "*Service Request*" is made under an Enabling Agreement through Southwestern's Open Access Same-Time Information System (OASIS) for reservation of transmission capacity over a particular point-to-point delivery path for a particular period. When a Service Request is approved by Southwestern, it becomes a "*Transmission Service Transaction*."

¹Supersedes Rate Schedule TDC-90

The Transmission Customer must submit hourly schedules for actual service in addition to the Service Request.

"Firm Point-to-Point Transmission Service" is transmission capacity reserved on a firm basis between specific points of receipt and delivery pursuant to either a Long-Term Firm Agreement or to a Transmission Service Transaction. *"Non-Firm Point-to-Point Transmission Service"* is transmission service reserved pursuant to a Transmission Service Transaction and which is subject to curtailment or interruption. *"Network Integration Transmission Service"* is transmission service provided under Part III of Southwestern's Open Access Transmission Service Tariff.

"Secondary Transmission Service" is associated with Firm Point-to-Point Transmission Service and Network Integration Transmission Service. For Firm Point-to-Point Transmission Service, it consists of transmission service provided on an as-available, non-firm basis, scheduled within the limits of a particular capacity reservation for transmission service, and scheduled from points of receipt, or to points of delivery, other than those designated in a Long-Term Firm Agreement or a Transmission Service Transaction for Firm Point-to-Point Transmission Service. For Network Integration Transmission Service, Secondary Transmission Service consists of transmission service provided on an as-available, non-firm basis, from resources other than the Network Resources designated in a Network Service Agreement, to meet the Network Customer's Network Load. The charges for Secondary Transmission Service, other than Real Power Losses, are included in the applicable capacity charges for Firm Point-to-Point Transmission Service and Network Integration Transmission Service.

The *"Demand Period"* used to determine maximum integrated rates of delivery for the purposes of power accounting is the 60-minute period which begins with the change of hour. The term *"peak demand"* means the highest rate of delivery, in kilowatts, for any Demand Period during a particular month, at any particular point of delivery.

For the purposes of this rate schedule, the term *"point of delivery"* is used to mean either a single physical point to which electric power and energy are delivered from the System of Southwestern, or a specified set of delivery points which together form a single, electrically integrated load. "Peak demand" for such set of points is computed as the coincidental highest rate of delivery among the specified points rather than as the sum of peak demands for each individual physical point.

"Ancillary Services" are those services necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the System of Southwestern in accordance with Good Utility Practice.

"Scheduling, System Control, and Dispatch Service" (an Ancillary Service) is provided by Southwestern as Control Area operator and is in regard to interchange and load-match scheduling and related system control and dispatch functions.

"Reactive Supply and Voltage Control from Generation Sources Service" (an Ancillary Service) is provided at transmission facilities in the System of Southwestern to produce or absorb reactive power and to maintain transmission voltages within specific limits.

"Regulation and Frequency Response Service" (an Ancillary Service) is the continuous balancing of generation and interchange resources accomplished by raising or lowering the output of on-line generation as necessary to follow the moment-by-moment changes in load and to maintain frequency within a Control Area.

"Spinning Operating Reserve Service" (an Ancillary Service) maintains generating units on-line, but loaded at less than maximum output, which may be used to service load immediately when disturbance conditions are experienced due to a sudden loss of generation or load.

"Supplemental Operating Reserve Service" (an Ancillary Service) provides an additional amount of operating reserve sufficient to reduce Area Control Error to zero within 10 minutes following loss of generating capacity which would result from the most severe single contingency.

"Energy Imbalance Service" (an Ancillary Service) corrects for differences over a period of time between schedules and actual hourly deliveries of energy to a load. Energy delivered or received within the authorized bandwidth (defined below) for this service is accounted for as an inadvertent flow and is returned to the providing party by the receiving party in accordance with standard utility practice.

Rates for Firm Point-to-Point Transmission Service:

CAPACITY CHARGES FOR FIRM TRANSMISSION SERVICE:

Monthly:	\$0.69 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a longer term agreement
Weekly:	\$0.173 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0314 per kilowatt of transmission capacity reserved in increments of one day of service

Service Associated with Capacity Charges for Firm Point-to-Point Transmission Service:

The capacity charge for Firm Transmission Service includes Secondary Transmission Service, but does not include charges for Ancillary Services or for Real Power Losses associated with actual schedules.

Application of Capacity Charges for Firm Point-to-Point Transmission Service:

Capacity charges for firm transmission service are applied to quantities reserved by contract under a Long-Term Firm Agreement or in accordance with a Transmission Service Transaction.

Transmission Customers which have Long-Term Firm Agreements that do not specify a transmission capacity reservation will be charged on the greater of (1) the peak demand at any particular point of delivery during a particular month, rounded up to the nearest whole megawatt, or (2) the highest peak demand recorded at such point of delivery during any of the

previous 11 months, rounded up to the nearest whole megawatt. The greater of (1) or (2), for any month, shall be considered such Transmission Customers' reserved capacity. Secondary Transmission Service for such Transmission Customers shall be limited during any month to the most recent peak demand on which a particular Transmission Customer is billed.

Rates for Non-Firm Point-to-Point Transmission Service:

CAPACITY CHARGES FOR NON-FIRM TRANSMISSION SERVICE:

Monthly:	\$0.55 per kilowatt of transmission capacity reserved in increments of one month of service
Weekly:	\$0.138 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0251 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00157 per kilowatthour of transmission capacity reserved in increments of one hour of service.

Application of Charges for Non-Firm Point-to-Point Transmission Service:

Capacity charges for Non-Firm Transmission Service are applied to quantities reserved under a Transmission Service Transaction, and do not include charges for Ancillary Services or Real Power Losses.

Rates for Network Integration Transmission Service:

ANNUAL REVENUE REQUIREMENT FOR NETWORK INTEGRATION SERVICE

\$4,922,3000

MONTHLY REVENUE REQUIREMENT FOR NETWORK INTEGRATION SERVICE

\$410,192

NET CAPACITY AVAILABLE FOR NETWORK INTEGRATION SERVICE

573,300 kilowatts

CAPACITY CHARGE FOR NETWORK INTEGRATION TRANSMISSION SERVICE:

\$0.72 per kilowatt of Network Load ($\$410,192/573,300$ kilowatts)

Application of Charge for Network Integration Transmission Service:

Network Integration Transmission Service is available only for deliveries of non-Federal power and energy, and is applied to the Network Customer's Network Load exclusive of any deliveries of Federal power and energy. The capacity on which charges for any particular Network Customer are determined in accordance with Southwestern's Open Access Transmission Service Tariff and the Network Service Agreement. Network Integration Transmission Service includes Secondary Transmission Service, but does not include charges for Ancillary Services or for Real Power Losses.

Rates for Real Power Losses

Real Power Losses are computed as 4 percent of the total amount of non-Federal energy transmitted on behalf of a Transmission Customer. The monthly charge for such Real Power Losses will be computed as follows:

$$MC = .04 \times NFE \times PPUC$$

with the factors defined as follows:

- MC = The monthly charge by Southwestern for Real Power Losses of non-Federal energy transmitted on behalf of a Transmission Customer;
- NFE = The amount of non-Federal energy transmitted on behalf of a Transmission Customer during a particular month; and
- PPUC = Purchased Power Unit Cost for Real Power Losses during the applicable Fiscal Year (October 1 through September 30) in mills per kilowatthour in accordance with the following formula:

$$PPUC = PFY \times (s(FUT/PFY)^{1/n}) \times GDP \times 1.1$$

with the factors defined as follows:

- PFY = cost for energy during the previous Fiscal Year, as set forth in the most recently available Energy Information Administration (EIA) Publication for the previous Fiscal Year, for Southwestern's marketing area;
- FUT = cost for energy projected "n" years into the future from the previous Fiscal Year as set forth in the EIA Publication for that previous Fiscal Year, for Southwestern's marketing area;
- n = number of years from the previous Fiscal Year that the EIA Publication for the previous Fiscal Year projects FUT;
- GDP = The Administrations' Gross Domestic Product Price Index, as cited in the most recent Presidential Budget of the United States.; and
- 1.1 = a factor representing power suppliers' administrative costs

The PPUC rate is adjusted at the beginning of each Fiscal Year, and will be published on Southwestern's OASIS. For Fiscal Year 1998, the PPUC rate of 20.8 mills per kilowatthour (\$0.0208) has been established.

Monthly Capacity Charges for Transformation Service:

A charge of \$0.25 per kilowatt will be assessed for capacity used to deliver energy at any point of delivery at which Southwestern provides transformation for deliveries at voltages of 69 kilovolts or less from higher voltage facilities.

Application of Capacity Charges for Transformation Service:

For any particular month, charges for transformation service will be assessed on the greater of (1) that month's actual peak demand, or (2) the highest peak demand recorded during the previous 11 months. For the purpose of this rate schedule, the peak demand will be based on all deliveries, of both Federal and non-Federal energy, from the System of Southwestern, at such point during such month.

Rates for Ancillary Services:

CAPACITY CHARGES FOR ANCILLARY SERVICES ASSOCIATED WITH TRANSMISSION SERVICES:

(a) Scheduling, System Control, and Dispatch Service:

Monthly:	\$0.03 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a Long-Term Firm Agreement or Network Service Agreement
Weekly:	\$0.008 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0014 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00009 per kilowatthour of energy delivered as non-firm transmission service

(b) Reactive Supply and Voltage Support from Generation Sources Service:

Monthly:	\$0.03 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a Long-Term Firm Agreement or Network Service Agreement
Weekly:	\$0.008 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0014 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00009 per kilowatthour of energy delivered as non-firm transmission service

(c) Regulation and Frequency Response Service:

Monthly:	\$0.04 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a Long-Term Firm Agreement or Network Service Agreement
Weekly:	\$0.010 per kilowatt of transmission capacity reserved in increments of one week of service

Daily:	\$0.0018 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00011 per kilowatthour of energy delivered as non-firm transmission service

(d) Operating Reserves Service: Spinning Reserve:

Monthly:	\$0.03 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a Long-Term Firm Agreement or Network Service Agreement
Weekly:	\$0.008 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0014 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00009 per kilowatthour of energy delivered as non-firm transmission service

(e) Operating Reserves Service: Supplementary Reserve:

Monthly:	\$0.03 per kilowatt of transmission capacity reserved in increments of one month of service or invoiced in accordance with a Long-Term Firm Agreement or Network Service Agreement
Weekly:	\$0.008 per kilowatt of transmission capacity reserved in increments of one week of service
Daily:	\$0.0014 per kilowatt of transmission capacity reserved in increments of one day of service
Hourly:	\$0.00009 per kilowatthour of energy delivered as non-firm transmission service

(f) Energy Imbalance Service:

\$0.0 per kilowatt for all periods of reservation

Availability of Ancillary Services:

Services (a) and (b) are associated with all transmission services in and from the System of Southwestern. Services (c) through (f) listed above are available only for deliveries of power and energy to load centers within Southwestern's Control Area. All deliveries from the System of Southwestern to such load centers must have all four Ancillary Services (c) through (f) available for such deliveries, provided either by Southwestern or from other resources.

Application of Ancillary Services Charges :

Charges for all Ancillary Services applicable to a particular transmission service are assessed on reserved or network transmission capacity in accordance with the rates listed above. Services (a) and (b) are applied to all transmission services received from Southwestern. The charges for Ancillary Services are considered to include Ancillary Services for any Secondary Transmission Service, except in cases where Ancillary Services (c) through (f) are applicable to a Secondary Transmission Service schedule, but are not applicable to the firm capacity reservation under which Secondary Transmission Service is provided. In such case, the charges for Ancillary Services associated with such schedule

shall be assessed at the hourly rates listed above for all associated energy, in accordance with the Ancillary Services provided at the particular point of delivery.

Determination of Ancillary Services to Be Charged to a Transmission Customer:

Transmission Customers located in Southwestern's Control Area, or delivering to load centers within the Control Area, must inform Southwestern by written notice of the Ancillary Services which they intend to take from Southwestern for any transmission services to such load centers, or of their election to provide all or part of such Ancillary Services from their own resources or from a third party, subject to Southwestern's approval of the ability of such resources or third parties to meet Southwestern's technical requirements for delivery.

Such written notice shall specify the Ancillary Services to be provided by Southwestern, or from other resources, for each point of delivery. The sources for the Ancillary Services which a Transmission Customer has elected to take in association with any particular point of delivery may not be changed during any calendar month. Transmission Customers may change the Ancillary Services which they take from Southwestern, and/or the sources from which they receive such services, by written notice provided at least 15 days prior to the first day of the month in which such changes are to be effected.

Limitations on Energy Imbalance Service:

Energy Imbalance Service is authorized for use only within a bandwidth of ± 1.5 percent of the actual requirements of the load at a particular point of delivery, for any hour, compared to the resources scheduled to meet such load during such hour. Deviations which are greater than ± 1.5 percent, but which are less than $\pm 2,000$ kilowatts, are considered to be within the authorized bandwidth. Deviations outside the authorized bandwidth are subject to a Capacity Overrun Penalty.

Exemptions from the Energy Imbalance Service Bandwidth:

Transmission Customers which receive long-term firm transmission service under contracts which were executed and put into effect prior to January 1, 1998, are exempted from the application of bandwidth limitations as described above. Such Transmission Customers are subject to a Capacity Overrun Penalty as set forth below for each kilowatt of difference, for any hour, between what Southwestern is able to schedule to meet the Transmission Customer's load from the Transmission Customer's resources and the Transmission Customer's actual load.

Application of Capacity Overrun Penalty:

Transmission Customers which receive deliveries within Southwestern's Control Area are obligated to provide resources sufficient to meet their loads. Such obligation is not related to the amount of transmission capacity that such Transmission Customers may have reserved for transmission service to a particular load. Except as provided above, in the event that a Transmission Customer underschedules its resources to meet load such that the difference between resources and actual metered load served from Southwestern's facilities, and as may be adjusted for transformer losses as applicable, for any hour, is outside the authorized bandwidth for Energy Imbalance Service, such Transmission Customer is subject to the following penalty:

CAPACITY OVERRUN PENALTY

For each hour in which energy flows outside the authorized bandwidth, the Transmission Customer will be obliged to purchase such energy at the following rates:

Range of Deviation Outside of Authorized Bandwidth	Rate per Kilowatthour
From 1 to 2,000 kilowatts:	\$0.05
For 2,001 kilowatts and greater	\$0.10

Unauthorized Use of Energy Imbalance Service by Overscheduling of Resources:

In the event that a Transmission Customer schedules greater resources than are needed to meet its load, such that energy flows at rates beyond the authorized bandwidth for the use of Energy Imbalance Service, Southwestern retains such energy at no cost to Southwestern and with no obligation to return such energy. Transmission Customers whose resources are scheduled by Southwestern are not subject to this provision.

Requirements Related to Power Factor:

Any Transmission Customer served from facilities owned by or available by contract to Southwestern will be required to maintain a power factor of not less than 95 percent lagging for each electrically integrated load except where point(s) are point(s) of system integration for mutual system support.

Determination of Power Factor:

The power factor may be determined at intervals or continuously, at the option of Southwestern, and shall be computed under the formula:

$$PF = (kWh \times 100) \div \sqrt{(kWh^2 + rkVAh^2)} ,$$

with the factors defined as follows:

PF = the power factor (in percentage) for any Demand Period of the month.

kWh = the total quantity of energy which is delivered during such Demand Period to the Transmission Customer's electrically integrated load, through all Southwestern points of delivery other than those points which are points of system integration for mutual system support.

rkVAh = the total quantity of reactive kilovolt-ampere-hours (kvars) delivered during such Demand Period to the Transmission Customer's electrically integrated load, through all Southwestern points of delivery other than those points which are points of system integration for mutual system support.

Power Factor Penalty:

Power factor penalties may be assessed for any month in which the formula above, when calculated for any Demand Period during such month, yields a power factor of less than 95 percent lagging. The penalty is assessed for such month in accordance with the following formula:

$$\text{PENALTY} = \text{PD} \times \text{PFP} \times \$1.00$$

with the factors defined as follows:

PENALTY = The amount in dollars to be assessed on the monthly invoice to the Transmission Customer as the Power Factor Penalty.

PD = The Transmission Customer's peak demand in kilowatts at the point of delivery for the month in which a low power factor was calculated.

PFP = The percentage equal to the difference, rounded to the nearest 1 percent, between 95 percent lagging and the computed power factor.

Application of Power Factor Penalty:

No penalty is assessed for leading power factor. Southwestern, at its sole option, may determine whether power factor calculations should be applied to a single physical point of delivery or to multiple physical points of delivery where a Transmission Customer has a single, electrically integrated load served through multiple points. The general criteria for such decision shall be that, given the configuration of the Transmission Customer's and Southwestern's systems, Southwestern will determine, in its sole judgment, whether the power factor computation more accurately assesses the detrimental impact on Southwestern's system when the above formula is calculated for a single physical point of delivery or for a combination of physical points.

Southwestern, at its sole option, may waive power factor penalties when, in Southwestern's sole judgment, low power factor conditions were not detrimental to the System of Southwestern due to particular loading and voltage conditions at the time power factor dropped below 95 percent lagging.